REMARKS

Please reconsider the application in view of the above amendments and the following remarks. Applicant thanks the Examiner for carefully considering this application. As the Examiner suggested, the title has been changed to more clearly indicate the invention to which the claims are drawn. Further, the specification has been amended to remove typographical errors. No new matter has been added by way of these amendments.

I. Disposition of Claims

Claims 1-52 are pending in this application. Claim 52 is independent. The remaining claims depend, directly or indirectly, from claim 52. Claim 52 has been amended in this reply. No new matter has been added by way of these amendments.

II. Rejection(s) under 35 U.S.C § 102

Claim 52 was rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,696,750 ("Katayama"). The remaining claims have been objected to for being dependent on a rejected base claim. Claim 52 has been amended in this reply to clarify the present invention recited. To the extent that this rejection may still apply to the amended claims, the rejection is respectfully traversed.

The Present Invention

As recited in claim 52, the present invention relates to an optical head that includes at least one light source, a photodetector, and at least one diffractive optical

element. The light source emits beams that have a plurality of wavelengths. The diffractive optical element is provided in an optical path common to the beams having the plurality of wavelengths. Additionally, a first diffraction light and a second diffraction light that are emitted from the diffractive optical element are substantially different in diffraction order with respect to the beams having a plurality of wavelengths. Further, the diffraction orders of the first diffraction light and the second diffraction light are not of the zeroth order.

Typically, when using diffractive elements in optical heads (instead of refractive elements), the optical head can be reduced in size, thickness and weight. Additionally, diffractive elements can produce practically 100% diffraction efficiency with respect to a particular design wavelength. However, the diffraction efficiency decreases gradually as the wavelength deviates from the design value.

With the emergence of various optical disks (CD, DVD, *etc.*), a plurality of wavelengths is required for reading the various information recording media. Therefore, when mounting various optical disks, a diffractive optical element must be designed for each wavelength and positioned only in the optical path of the beam having a wavelength for which it was intended, in order to maintain diffraction efficiency. The present invention advantageously provides an optical head having at least one diffractive element with increased diffraction efficiency for reading various types of information recording media. As amended, claim 1 further requires that the diffraction orders of first and second have a value other than zero.

Katayama

Katayama fails to teach all of the elements of the present invention as recited in amended claim 52. Figure 5 of Katayama show an optical head apparatus having modules (11 and 12) and an interference filter (13). Additionally, the optical head of Katayama includes a holographic element (5') and an objective lens (6'). In Katayama, a wavelength light beam is emitted from the laser diode of module (11) and then is emitted from the holographic optical element (5') as a *zeroth* order light beam. Additionally, a wavelength light beam is emitted from the laser diode of module (12) and then is emitted from the holographic optical element (5') as a first order light beam. (See, *e.g.*, col. 5, l. 56-col. 6, l. 13.)

However, claim 52, as amended, requires that the "diffraction orders of the first diffraction light and the second diffraction light is not zero." Because Katayama only discloses a diffraction order of a zeroth order light beam and a first order light beam, Katayama does not disclose the present invention as recited in amended claim 52. Moreover, such a limitation is not suggested by Katayama. Therefore, claim 52 is patentable over Katayama. Claims 1-51, being dependent on claim 52, are patentable for at least the reasons set forth above. Accordingly, withdrawal of the §102 rejection is respectfully requested.

III. Conclusion

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 04558/036001).

Respectfully submitted,

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Jonathan P. Osha, Reg. No. 33,986
Osha Novak & May L.L.P.
One Houston Center, Suite 2800
1221 McKinney Street
Houston, TX 77010
Telephone: (713) 228-8600
Facsimile: (713) 228-8778

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